AUGUST, 1887.

The usual monthly meeting of the Royal Society of Tasmania was held on August 15. There was a fair attendance of Fellows, and the chair was occupied by the President, His Excellency Sir Robert Hamilton, K.C.B., who came accompanied by Miss Hamilton, Miss Harvey, and Mr. H. W. B. Robinson, the private secretary.

List of additions to the library during the month of July last :—

Abhandlungen der Mathematisch Physikalischen Classe, der Koniglich Bayerishchen, Akademie der Wissenchaften Fünfzehnten Bandes.—From the Society.

Annual Report of the Board of Regents of the Smithsonian Institution for the year 1884.—From the Department.

Anales de la Oficina Meterologica, Tome V.—From the Department.

Boletim da Sociedada de Geographia di Lisbon 6A cerie Nof. 9, 10, and 11.—From the Society.

Bulletin of the Museum of Comparative Zoology at Harvard College, Vol. XIII., No. 4—Studies from the Newport Marine Laboratory, XVIII., on the Development of the Calcareous Plates of Amphiura, by J. W. Fewkes.—From A. Agassiz.

Bulletin of the Essex Institute, vol. 17, Nos. 1 to 12, January to December, 1885.—From the Society.

Bulletin of the California Academy of Sciences, vol. 2, No. 5, September, 1886.—From the Society.

Bulletin of the American Museum of Natural History, vol. 1, No. 8. —From the Society.

Bulletin of the United States Geological Survey, No. 27—Work done in the division of chemistry and physics, mainly during the fiscal year 1884-85. No. 28—The Gabbros and Hunblende Rocks occuring in the neighbourhood of Baltimore, M.D. No. 29—One, the freshwater invertebrates of the associated North American Jurassic. No. 30—Second contribution to the studies on the Cambrian Faunas of North America. No. 31—Systematic review of our present knowledge of fossil insects, including Myriapods and Arachnids. No. 32—Mineral springs of the United States.—From the Society.

Bulletin de la Société de Geographie, 7 serie, 1 to 4, 1886.—From the Society.

Catalogue general Argentino.—From the Society.

Essex Institute Historical Collection, Vol. XXI., January to December, 1884; Vol. XXII., January to December, 1885.—From the Society.

Field Naturalists' Club of Victoria, seventh Annual Report, 1886-7; list of members, etc.—From the Society.

Gedächtnissrede auf Carl Theodor V. Subold.—From the Society.

Gold Fields of Victoria, reports of the Mining Registrars for the quarter ended 31st March, 1887.—From the Department.

Homenagem a Luciano Cordeiro, 16 Maio, 1888.—From the Society.

Inhaltsverzenchniss der Litzungsberichte, 1871, 1885.—From the Society.

Journal of the Linnæan Society, vol. 19-21, Nos. 114, 116, 126-8, "Zoologi;" vols. 22, Nos. 146-8, "Botany."—From the Society.

Journal of the Society of Arts, vol. 34, 1885-6.—From the Society.

Journal of the Trenton Natural History Society, No. 2, January, 1887.—From the Society.

Journal of the Royal Historical and Archeological Association of Ireland, vol. VII., 4th series, October, 1885, No. 64; January, 1886. No 65; April, 1886, No. 66: July, 1886, No. 67; October, 1886, No. 68; January, 1887, No. 69.—From the Society.

Journal of the Statistical Society, vol. XLIX., pt. IV.; vol. L., pt. 1.—From the Society.

Journal of the Royal Asiatic Society of Great Britain and Ireland, N.S., vols. 18, 19, pts. 1, 2, IV., 1886-7.—From the Society.

Journal of the Royal Society of New South Wales, vol. XXI., part 1, August, 1887.—From the Society.

Journal of the Royal Microscopical Society, part 3, 1887, June.—From the Society.

Journal of the Chemical Society, containing the papers read before the Society, and abstracts of chemical papers pubilshed in other journals, No. CCXCIV., May, 1887.—From His Excellency Sir R. G. C. Hamilton, K.C.B.

List of surviving members of the American Philosophical Society of Philadelphia, presented to the Society at the stated meeting held March 5, 1886.—From the Society.

List of the members of the Linneon Society of London. Session 1886-7.—From the Society.

List of the members of the Geological Society of London, November 1, 1886.—From the Society.

List of the members, officers, and Professors, with the report of the visitors of the Royal Institution of Great Britain, 1886.—From the Society.

Memoirs of the Boston Society of Natural History, Vol. III., No. XII., "The life history of the Hydromidusæ: a discussion of the origin of the Medusæ and the significance of the Netagenesis," by W. K. Brooks, No. XIII. "The oldest known insect Larva *Monsolucoides Articulatus*, from the Connecticut River rocks;" "Note on the supposed Myriapodan, Genus *Trichiulus*;" "A review of Mesozoic Cockroaches," by S. H. Scudder.—From the Society.

Memoirs of the Geological Survey of India, Palæontologica Indica, Ser. X. Indian Tertiary, and Post-Tertiary Vertebrata, Vol. XLV., Pt. II. The fauna of the Karnul Caves (and addendum to Pt. I.) By R. Lydekker, B.A.—From the Society.

Meteorological Observations made at Hobart and other places in Tasmania during the year 1886.—From the Meteorological Observer.

Mineral resources of the United States calendar year 1885, Division of Mining Statistics and Technology.—From the Department.

Monthly Notices of the Royal Astronomical Society, vol. XLVII., No. 7, May, 1887.—From the Society.

Monthly Weather Review, U.S., January to June, 1885; January to June, 1886.—From the Department.

Notes on the Post Tertiary Strata in South-Western Victoria, by J. Dennant, F.G.S.—From the Author.

Proceedings of the Royal Geographical Society, and Monthly Record of Geography, vols. 8, 9, 1886-7.

Proceedings of the Zoological Society of London for the year 1886.—From the Society.

Proceedings of the Boston Society of Natural History, Vol. XXIII., Pt. II., March, 1884, February, 1886.—From the Society.

Proceedings of the Academy of Natural Sciences of Philadelphia, Pt. II-III., 1886.—From the Society.

Proceedings of the Davenport Academy of Natural Sciences, Vol. IX., 1882-4.—From the Society.

Proceedings of the American Philosophical Society, Vol. XXIII., Nos. 123-4.—From the Society.

Proceedings of the Royal Institution of Great Britain, Vol. XI., Pt. III., No. 80.—From the Society.

Publication der Norwegischen Commission der Europœischen Gradmessung, Heft. V.—From the Society.

Quarterly Journal of the Geological Society, London, vols. XLII.-III.-IV., No. 168, 1886; Nos. 169-70, 1887.—From the Society.

Report of the progress and condition of the Botanical Gardens of South Australia during the year 1886.—From the Department.

Report of Board of Trustees of the Queensland Museum for the year 1886.—From the Society.

Report of the Superintendent of the U.S. Naval Observatory for the year 1886.—From the Department.

Results of rain and river observations made in N.S.W. and part of Queensland during 1886, by H. C. Russell, B.A.—From the Government Astronomer.

Societe de Geographie, Nos. 16 to 19, 1886, Nos. 1 to 9, 1887.—From the Society.

Sitzungesberichte, Heft. IV., 1885, Heft. I-II., 1886.—From the Society.

Till Algernes Systematik, VII., "Siphoniæ."—From the Society.

Transactions of the Institution of Engineers and Shipbuilders in Scotland, Vol. XXIX., 1886.—From the Society.

Transactions of the Asiatic Society of Japan, Vol. XV., pt. 1.—From the Society.

Transactions and Proceedings of the Royal Geographical Society of Australasia, Victorian Branch, Vols. III. and IV., 1st January, 1885, to 31st December, 1886.—From the Society.

United States Geological Survey—"Geological History of Lake Lahontan, a quaternary lake of North-Western Nevada, by J. C. Russell.—From the Department.

Vandstandsobservationer, Heft. IV.—From the Society.

Victorian Naturalist, Vol. IV., No. 4, August, 1887.—From the Society.

THE VICTORIAN ROYAL SOCIETY.

The SECRETARY read copies of letters sent to the Royal Society of Victoria with reference to the proposed Antarctic exploration, and the following reply:—"Melbourne, 25th July, 1887. I beg leave, with many thanks, to acknowledge the receipt of your letter of the 10th inst., replying to mine of the 16th ult., and assuring our Antarctic Exploration Committee of the cordial support of the Royal Society of Tasmania in the proposed appeal to the British Association on behalf of renewed Antarctic exploration. My committee held a meeting on the 19th inst., when the appeal (which was sent to Admiral Ommanney on the 2nd inst.) and the replies to my circular of the 16th ult. were read, and I was desired to forward to you with a copy of the appeal, the grateful thanks of the committee for the readiness and cordiality of your response. I have just written to Admiral Ommanney again enumerating the Australian societies who have assured us of their concurrence in the appeal to the British association. A resolution was also moved by Baron von Müeller, and carried unanimously, expressive of the profound regret of the committee at the great loss sustained by, not only your Society and the cause of Antarctic exploration, but by colonial science generally in the untimely death of Mr. Sprent your Deputy Surveyor-General, and I am desired to request you to convey to your Society the tenor of the resolution. Having myself experienced Mr. Sprent's courtesy and valuable assistance in the matter of Antarctic exploration, I can very cordially sympathise with you and your society in our mutual loss. (signed) H. K. Rusden, hon. sec. Royal Society and Australian Antarctic Exploration Committee.

Accompanying the letter were some notes connected with the proceedings of the joint committee appointed by the Royal Society of

Victoria and the Royal Geographical Society of Australasia, Victorian branch, to promote an expedition to the South Pole at the earliest practical date, and embodying a letter from the committee to Sir Erasmus Ommanney, the secretary of the British Association Antarctic Committee, expressing the hope that the efforts of that association might speedily receive the reward they deserve, and giving details of the work done in Australia and the end in view.

The PRESIDENT said the matter would now rest very much with the British Association, and the next step would be the decision of that body.

PLANTS.

The Secretary submitted a paper by Baron von Müeller on some plants new to Tasmania, and others found in new localities. The plants referred to by the Baron were *Belendena montana*, *Richea pandanifolia*, *Prionotes cerinthoides*, *Richea Gunni*, *Donatia novæ-Zealandiæ*, *Milligania dentiflora*, *Potamogeton Cheesemanii*, *Sporobolus virginious*, *Diploderma glanoum*, *Castoreum raduaturn*.

Mr. PERRIN read the following notes on the plants referred to by the Baron :—

Notes on some new plants *(Sporobolus virginius)* not previously described as found in Tasmania, with notes on the distribution of *Richea*, *Pandanifolia*, *R. Gunnii*, *Bellendena*, *Montana*, and other plants described by Baron Von Müeller :—

Sporobolus Virginius, recently found near the entrance of the Tamar, by Miss Oakden.

This plant has been recorded by R. Brown in his Prodromus, but has been unaccountably missed from Australian and Tasmanian botanical publications.

R. Brown in his Prodromus describes this plant as being very closely allied to the species of the Natural Order, *Gramineæ* (herbs and grasses chiefly), *Agrostis*, and originally described as *Agrostis Virginicæ*, but which on further examination was subsequently referred to *Agrostis Diandra*.

Brown, however, describes three species (3) ;—

Sporobolus Indicus
„ *elongatus*
„ *pulchellus*

The information upon these plants is somewhat scant ; on referring, however, to Robert Brown's works, as published by the Royal Society, I find the following :—

In a list of Indian plants, extracted from a numbered list of dried specimens in the East India Company's Museum, which had been collected under the superintendence of Dr. Wallick, and numbered consecutively 3,764, 3,765 in the catalogue, appear as *Sporobolus coromandelianus*.

Sporobolus diander.

These are Indian specimens of the natural order *Gramineæ*, and may perhaps be identical with two of those mentioned in the Prodromus ; but not having any specimens to guide me I am unable to determine the species from the description given.

In a note attached to the catalogue on the two Indian species just given, Dr. Wallick says :—"Mr. Brown having undertaken the elaboration of the grasses, the specific names which are wanting will be supplied hereafter by that gentleman, who has in the meantime furnished this provisional list of the family."

To this is added the following editorial note.

[As this intention was never carried out those names only are quoted which have Mr. Brown's authority attached to them.—ED.]

From this it would appear that this species of plant had not received the full attention from the early botanists they deserved.

Mr. Bentham, however, in his "Flora Australiensis," says, page 450 :—

This order, *Gramineæ*, has been the object of special study of several of the most eminent botanists, among which the labours of Brown, Kunth, and of Trinius have been the most important.

But the only general enumeration they have left is that of Kunth, who had not at that time the materials, nor yet the leisure to investigate the synonymy which had already become exceedingly confused.

This confusion has been gradually increasing by the large number of species described in partial works, without that general comparison which is specially needed in an order in which a large proportion of the species have a very wide geographical distribution.

Three of this species are common to Australia and New Zealand, whilst 14 are endemic (mostly small) in Australia. Of these perhaps the species better known to outsiders is *Anthisteria ciliata*, common to all the colonies, viz.:—The well-known kangaroo grass, also *Spinifex hirsutus*.

The chief portion of our grasses are comprised in this order. In Mr. Spicer's work on Tasmanian Plants mention is made of eight species of Agrostis, viz. :—

Agrostis quadriseta	*Agrostis Venusta*
parviflora	,, *Solandri*
,, *æquata*	,, *Scabra*
,, *montana*	,, *Vulgaris*

To these we must now add *Sporobolous virginius*.

Richea pandanifolia—Giant Grass-tree, lately received by Baron von Müeller from Chas. P. Bennett, and noted as growing on Alpine heights, N. W. Tasmania. Also *Richea Gunnii* (J. Hooker), Cradle Mountain, noted by Mr. W. R. Bell.

When on an exploration tour to the back of Mt. La Perouse in December last, I found a splendid grove of *Richea pandanifolia* about 500 feet below the top of the connecting range of hills between Adamson's Peak and Mt. La Perouse at an altitude of about 2,500 feet. They are also very numerous on the West Coast, and during an exploration which I made in July of last year on the east side of Mount Sorell, after rising some 1,500 feet from the bed of the King River, I found quite a number of these exceedingly handsome palm-like trees, which, when seen among the dark green myrtles give quite a tropical appearance to the surrounding vegetation, and they reminded me very much of the beautiful screw palms *(pandanus)* of tropical North Australia. I have also seen *Richea Pandanifolia* on the ranges and hills around Mount Lyell.

Bellendena Montana—Mount Bischoff, F. Kayser. Leaves wedge-shaped, smooth, toothed at end (Spicer); fruit, egg-shaped. "Mountain Rocket" (Spicer).

This genus is limited to a single exclusively Tasmanian species. A low glabrous shrub, sometimes under six inches high, bushy or tufted leaves, usually cuneate, broad or narrow, with three obtuse crenatures or short rounded terminal lobes, sometimes broadly crenate. The whole leaf ¾ to above an inch long, tapering into a short petiole, flat, but rather thick, and sometimes glaucous; flowers, white (Benth. Flor. Aus.), and is found on Mt. Wellington, R. Brown, and Ben Lomond, 3,000 to 5,000. Some specimens from the latter place have entire *narrow leaves*.

Mr. Morton mentioned, with reference to two species of fungi referred to in the paper that Mr. Leonard Rodway was engaged in preparing descriptions and drawings of all the Tasmanian fungi, and had obtained a large number of specimens, many of which were new. He hoped Mr. Rodway would be able to submit a paper to the Society next year.

Mr. Stephens said it appeared that Baron von Müeller desired to place on record localities new to him for some of these plants, one of which, however, was common to the whole western side of the island.

NEW FISHES.

Mr. MORTON, the secretary, submitted a specimen of a new fish to Tasmania, which was not only a new species, but, as he had been able to discover, proved to be a new genus. It had been found on the beach near Bridgewater in a rather bad state, as the crows had been at work on it and taken out one of the eyes, besides eating a part of the side. Upon reference to several works on ichthyology he could not place any to our genus, and during a recent visit to Sydney he submitted it to Mr. J. Douglas Ogilby, who has charge of the Icthiological department in the Sydney Museum. After consulting a number ot works, the conclusion come to was that it was a new genus. It was apparently a deep water fish. At first sight it appeared like the Hapuka *(Oligorus gigas)* of New Zealand, found in our waters occasionally, but the scales and fins revealed a difference, the diameter of the eye being much larger. The dentition was also different. Owing to its prominent head he had given it the name of *Eurumetopos*. He was very glad to have the pleasure of giving as the specific name of this fish the name of one of the leading members of the Society who had done more work in connection with the Natural History and Geology of Tasmania than anyone else, Mr. R. M. Johnston. (Hear, hear.) He felt proud to have the honour of naming this remarkable specimen submitted, *Eurumetopos Johnstoni*. Mr. Morton also submitted a new species of the genus *Triptergium*, a genus hitherto unrecorded in Tasmania, although Mr. Johnston had a specimen, but of a different species, but had not described it. It was discovered at Clarke's Island by Mr. McLaine, and he proposed to give it the specific name of *Clarkei*. Several species of this fish were found in New Zealand and Australia.

A DECEASED SCIENTIST.

Some correspondence was read with reference to Mr. Augustus Oldfield, a brother of Mr. E. D. Oldfield who kept a commercial school in Hobart for many years. Mr. Augustus Oldfield, who was a botanist for many years in Tasmania, and possessed very high testimony of his scientific acquiremeats and disinterestedness from Sir J. Hooker, Baron von Müeller, and other authorities, died in comparative obscurity, and his friends desired that his name should at least be rescued from oblivion, considering his valuable work. The matter came recommended by Dr. Agnew, and the testimonials of the deceased gentleman were read.

Mr. BASTOW said that he had frequently come across the name of Oldfield in his botanical researches, and felt certain that the deceased scientist had done a great deal of useful work, though he knew nothing of him.

Mr. GRANT thought that in the case of a man whose work was so fully acknowledged by eminent authorities, the least the Society could do was to record his name as one who had done valuable work in Tasmania so as to encourage others to follow in his lines.

The PRESIDENT said he would assume, from the tone of the meeting, that it was the desire of the Fellows that some formal recognition of the labours of the deceased gentleman should be placed on the records.

MOUNT WELLINGTON.

Mr. PERRIN read some statistics from a report by him on the destruction of the ferns and trees of the Mount Wellington reserve.

Mr. GRANT pointed out that the whole of the frontage along the Huon-road was in private hands, and the destruction so justly denounced took place on this land. Nothing could be done without the Government could be persuaded to purchase back the alienated land.

Mr. SWAN agreed with Mr. Perrin's desire to see the flora of

the mountain preserved, but objected to the artificial improvements advocated.

Mr. STEPHENS corroborated what Mr. Grant had said, but thought the police might take the trouble to ascertain where the tree ferns taken came from.

Mr. PERRIN said that the unalienated reserve comprised thousands of acres, and the destruction was going on there as well. He only wished to plant exotics around the proposed springs.

THE GEOLOGY OF THE SCOTTSDALE LINE.

Mr. T. STEPHENS drew attention to several specimens from the tunnel on the Scottsdale Railway, kindly furnished by the Engineer-in-Chief (Mr. Fincham.) The tunnel is to be carried through a ridge of that series of rocks striking more or less north and south which are to be found at intervals along the whole of the N. Coast, and may be generally described as silurian, the subdivision of the primary rocks of Tasmania being impracticable in the present condition of our knowledge of their several relations. The rocks at the tunnel comprise bands of clay slates, schists, and sandstones, among which are quartzose bands of intense hardness which have caused trouble. The tunnel is between 25 and 26 miles from Launceston and nearly half a mile long, somewhat more than half of which is now pierced, gradient 1 in 39. Proceeding towards Launceston the silurian rocks, Mr. Stephens said, become overlaid by those of upper palæozoic age with the common fossils of that formation, a few of which were exhibited. There is in places an impure limestone, which is closely allied to, but probably on a lower horizon than the interesting foraminiferous limestone associated with scattered remains of the coal measures of the Piper's River district, specimens of which he (Mr. Stephens) had brought under the notice of the Society several years ago. Mr. Stephens said, passing out of the region of sedimentary rocks, the line going towards Launceston traverses a very difficult country, both for engineering work and construction; as, indeed, is the case along the greater part of the route. The prevailing rock here is massive diabase. When within a few miles of Launceston the line passes over the tertiary formation overlying the lower hills to the N.E. of Launceston, which presents no novel features. In showing the various rock specimens, Mr. Stephens pointed out how the partial decomposition of sulphide of iron had bleached and destroyed the portions of a purple-tinted paper, which were in contact with it.

Mr. GRANT said he knew the district well, though he did not know the country above the route of the railway, which was almost *a terra incognita*, and any information concerning it, especially with regard to the agricultural land, would be valuable. He believed the opening of the railway would be productive of much good, as there were rich districts there.

NOTES AND EXHIBITS.

The SECRETARY (Mr. A. Morton) drew attention to a large and valuable collection lately presented by the trustees of the Australian Museum, Sydney, to the Tasmanian Museum. The collection consisted of a series of valuable casts, chiefly from the cave Breccia, Wellington caves, New South Wales:—No. 1. A cast of the right lower jaw of the *Thylacoleo carnifex* or Pouched Lion of Australia, a carnivorous marsupial of the Australian tertiary period. No. 2. Casts of bones belonging to an emu found in the same caves. No. 3. Portion of incisor of large fossil wombat. No. 4. Cast of portion of leg bones, etc., of a large marsupial found also in the Wellington caves (*Diprotodon sp.*), and several fossil bones of the kangaroo, cast of a portion of a tail of a gigantic fossil lizard; this fossil was obtained

at Lord Howe Island, some 420 miles from Sydney. It is allied to the present strange lizard found at Western Australia, known as *Moloch horridus*. Specimens of both were exhibited on the table.

A fine cob of Indian corn grown on Maria Island was submitted by the Secretary.

A very interesting collection of carved ethnological subjects from the Bouka Island, Solomon Group, from the Australian Museum, were also exhibited.

ENORMOUS EARTHWORMS.

Mr. MORTON exhibited some very large earthworms kindly obtained by Mr. Bernard Shaw, Inspector of Police. Some of these measured from 2ft. to 3ft. in length. Mr. Morton stated that Mr. J. J. Fletcher, Director of the Linnæan Society of New South Wales was busy writing a work on the earthworms of Australia, and on forwarding a few of the Tasmania worms for comparison, Mr. Fletcher writes :—"They are splendid specimens, and about the finest worm I have yet seen, for though one of ours is longer, it is not so robust, nor so altogether magnificent. My third paper is to be read on the 29th inst., but I am not able to include them in it, as I have not quite finished with those already in hand. But I will get to work at them as soon as possible. They are certainly a new species, and very likely a new genus, but I cannot decide this without dissection. Later on I shall be glad to send you for your museum specimens of as many named species of our worms as I can spare." Mr. Morton said he had some alive that he intended sending to Mr. Fletcher.

THANKS.

A vote of thanks was passed to the authors of the papers, and to those who had contributed interesting information.

LICHENS.

Mr. BASTOW at the conclusion of the meeting, submitted some well mounted specimens of Tasmanian lichens, including some of the most interesting species. Other specimens had been arranged for the microscopes which were inspected by the ladies and gentlemen present.

SEPTEMBER, 1887.

The monthly meeting of the Royal Society of Tasmania was held at the Museum on September 12.

His Excellency (the President) Sir Robert Hamilton in the chair, and there was a large attendance of Fellows and Ladies.

The Hon. B. S. Bird and Mr. C. E. Featherstone were admitted Fellows of the society.

List of additions to the library during the month of August :—

Annual Report of the Department of Mines, New South Wales, for the year 1886.—From the Department.

Bollettino dei Musei di Zoologia ed Ana tomia comparata, della R. Universita di Torino, Nos. 19 to 26, Vol. II.—From the Society.

Bulletin de la Société D'Ethnographie, 2nd ser., No. 7.—From the Society.

Monthly weather reports, U.S. of America, 1886-7.—From the Department.